

VII. ELECTRICAL SPECIFICATIONS:

MODEL NUMBERS	SPEAKERS dBA @ 10 FEET PER UL 1480					
RATED WATTS	1/8	1/4	1/2	1	2	4
SPKE4 SERIES	78	81	84	87	90	90
SPKE8 SERIES	78	81	84	87	90	90

WIRING DIAGRAM

RATED WATTS	1/8	1/4	1/2	1	2	4
INPUT 25v RMS	D	E	F	G	H	I
INPUT 70.7v RMS	A	B	C	D	E	F

Cd	STROBE CURRENT RATINGS						
	VOLTAGE	DC (mA)			FWR (mA)		
		INRUSH	PEAK	AVG	INRUSH	PEAK	AVG
15	21V	96	94	86	132	236	110
	24V	114	84	78	176	216	100
	30V	150	76	69	176	200	81
15* & 30 (wall)	21V	110	120	105	245	280	140
	24V	130	110	93	235	260	125
	30V	160	90	77	310	245	115
15*(ceiling) & 60 (wall)	21V	120	150	130	320	360	180
	24V	140	120	115	300	340	160
	30V	170	100	95	400	330	145
30*(wall) & (ceiling)	21V	110	180	165	180	480	224
	24V	120	160	142	180	440	193
	30V	160	140	114	220	400	165
110	21V	128	270	240	220	752	310
	24V	148	240	220	280	704	298
	30V	230	200	179	420	552	234
SYNCHRONIZED STROBE RATINGS							
15 (Z suffix)	21V	420	180	98	440	260	115
	24V	490	160	92	600	350	107
	30V	620	150	85	640	380	100
15* (Z suffix)	21V	420	440	144	550	920	172
	24V	490	680	130	640	920	155
	30V	620	580	116	700	640	138

*-RATED 75 Cd PER UL 1638, FIRE PROTECTIVE VISUAL SIGNALING APPLIANCES.

LIMITED WARRANTY

For a period of 24 months from the date of purchase, or a maximum of 30 months from the date of manufacture, Gentex warrants to you, the original purchaser, that your appliance will be free from defects in workmanship, materials, and construction under normal use and service. If a defect in workmanship, materials, or construction should cause your appliance to become inoperable within the warranty period, Gentex will repair your appliance or furnish you with a new or rebuilt replacement appliance without charge to you except for postage required to return the appliance to us. Gentex will not reimburse you for repairs or replacement parts provided by other parties. Your repaired or replacement appliance will be returned to you free of charge and it will be covered under this warranty for the balance of the warranty period.

This warranty is void if our inspection of your appliance shows that the damage or failure was caused by abuse, misuse, abnormal usage, faulty installation, improper maintenance, or repairs other than those performed by us.

ANY WARRANTIES IMPLIED UNDER ANY STATE LAW, INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, APPLY ONLY FOR THE WARRANTY PERIOD SPECIFIED ABOVE. PLEASE NOTE THAT SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE EXCLUSION MAY NOT APPLY TO YOU.

GENTEX WILL NOT BE LIABLE FOR ANY LOSS, DAMAGE, INCIDENTAL OR CONSEQUENTIAL DAMAGES OF ANY KIND ARISING IN CONNECTION WITH THE SALE, USE OR REPAIR OF THIS APPLIANCE. THE MAXIMUM LIABILITY OF GENTEX SHALL NOT IN ANY CASE EXCEED THE PURCHASE PRICE PAID BY YOU FOR THE APPLIANCE. PLEASE NOTE THAT SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE EXCLUSION MAY NOT APPLY TO YOU.

If a defect in workmanship, materials, or construction should cause your appliance to become inoperable within the warranty period, you must return the appliance to Gentex postage prepaid. You must also prove to the satisfaction of Gentex the date of purchase of your appliance. Warranty service may only be performed by Gentex personnel at Gentex's facilities in Zeeland, Michigan. You must also pack the appliance to minimize the risk of it being damaged in transit. You must also enclose a return address. Appliances returned for warranty service should be sent to: Gentex Corporation, 10985 Chicago Drive, Zeeland, MI 49464. If we receive an appliance in a damaged condition as the result of shipping, we will notify you and you must file a claim with the shipper.

THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE.

GENTEX CORPORATION

10985 CHICAGO DRIVE, ZEELAND, MI 49464

PHONE: 800-436-8391

1-1-94

550-105-11

GENTEX CORPORATION

SPKE SERIES
UL 1971 COMPLIANT

SPEAKER AND SPEAKER/STROBE

Installation Instructions- Owner's Information

MODELS

SPKE4*..... SQUARE SPEAKER
SPKE4*..... SQUARE SPEAKER WITH 24 VDC STROBE
SPKE8*..... 8 IN. ROUND SPEAKER
SPKE8*..... 8 IN. ROUND SPEAKER WITH 24 VDC STROBE

* Includes any of the following suffixes, number indicating candela rating, R (Red) or W (Off-White), W (Wall) or C (Ceiling).

I. INTRODUCTION

The Gentex SPKE Series is a high quality speaker and speaker/visual signal appliance. The SPKE Series is UL Listed for fire protective service. The high intensity strobe utilizes a Xenon flash tube which generates a high-intensity light visible from all sides. The strobe is UL Listed in compliance with UL 1971, Signaling Appliances for the Hearing Impaired (15/75 Cd and 30/75 Cd models are additionally listed in compliance with UL 1638).

II. PRODUCT INFORMATION

The SPKE Series speaker and speaker/strobe offer a choice of field selectable power taps, 1/8, 1/4, 1/2, 1, 2 and 4 Watts for either 25v or 70.7v audio amplifiers. The speaker/strobe offers the option of a high intensity strobe which complies with UL 1971. The frequency range of the speakers is 400-4000Hz. All devices are suitable for line supervision. Speaker includes DC blocking capacitor which allows for supervision voltage of either polarity.

III. LOCATION

This appliance is intended for use in Fire Alarm Systems and is to be installed in accordance with this installation manual, the recommendation of the local authorities having jurisdiction, and other NFPA Standards that provide standards on notification appliances for protective signaling systems.

The Gentex "SPKE" is intended for indoor installation only. This appliance is not weatherproofed for outdoor or drip proof applications.

Wall-mounted appliances shall have their bottoms at heights above the finished floor of not less than 80 in. (2m) and no greater than 96 in. (2.4m)**. Spacing shall be in accordance with Table A. If a room configuration is not square, the room size that will entirely encompass the room or subdivide the room into multiple squares shall be used.

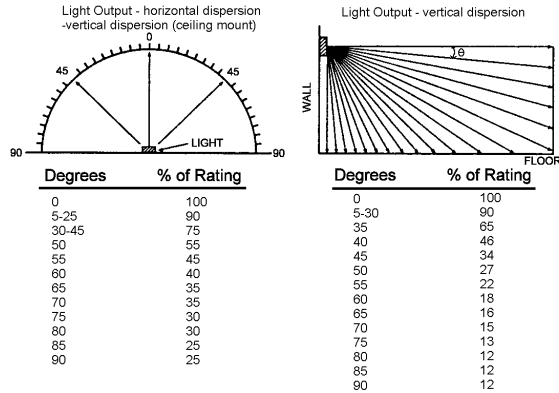
Maximum Room Size	Minimum Required Light Output, Candela (Cd) (Effective Intensity)		
	One Light per Room (Cd)	Two Lights per Room (Located on Opposite Walls) (Cd)	Four Lights per Room (One Light per Wall) (Cd)
20' x 20'	15	N/A	N/A
30' x 30'	30	15	N/A
40' x 40'	60	30	15*
50' x 50'	95	60	30*
60' x 60'	135	95	30*
70' x 70'	185	95	60*
80' x 80'	240	135	60
90' x 90'	305	185	95
100' x 100'	375	240	95
110' x 110'	455	240	135
120' x 120'	540	305	135
130' x 130'	635	375	185

TABLE A * - Must be used with the AVS44 Control Module due to distance between strobes being less than 55ft.

****Effective Intensity Requirements for Sleeping Area**

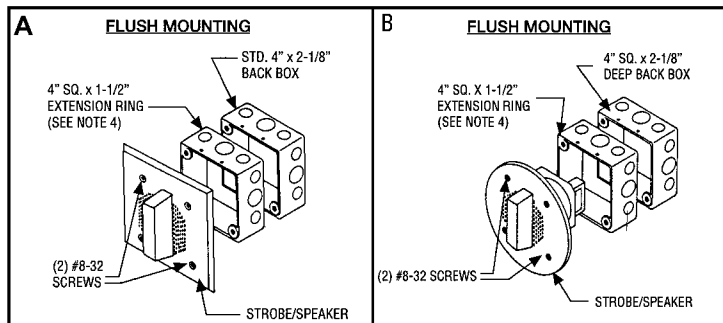
Visible Notification Appliance	
Distance from Ceiling to Top of Lens	Intensity
greater than or equal to 24"	110 Cd
less than 24"	177 Cd

LIGHT OUTPUT IN PERCENTAGE WHEN MEASURED FROM THE FOLLOWING DIRECTIONS



IV. MOUNTING ROUGH-IN BOX AND RUN WIRING

MOUNTING OPTIONS
All models shown with optional strobe.

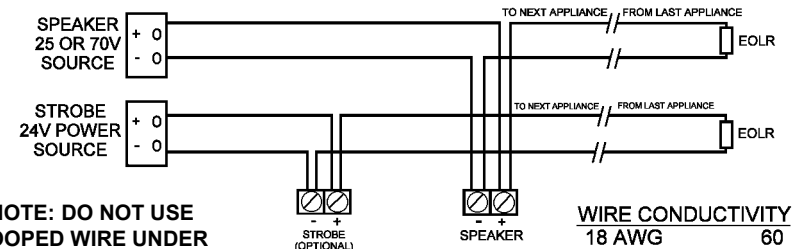


SYSTEM CONSIDERATIONS

- To select the proper wattage input for the speaker. Move the jumper to the appropriate pin. Refer to Section VII for the proper terminal.
- Always maintain electrical isolation between speaker and strobe wiring on combination units.
- Do not exceed 130% of rated speaker voltage. If excessive distortion is heard, check amplifier for signal clipping. If clipping exists, reduce either amplifier input or gain.
- When extension rings are used, the conduit should always enter through the backbox.

CAUTION
WHEN INSTALLING, ROUTE FIELD WIRING AWAY FROM SHARP PROJECTIONS, CORNERS AND INTERNAL COMPONENTS.

NOTE: Strobes are not recommended for use on coded or pulsing signaling circuits.



NOTE: DO NOT USE LOOPED WIRE UNDER TERMINALS. BREAK WIRE RUN TO PROVIDE SUPERVISION OF CONNECTION.

WIRE CONDUCTIVITY	
18 AWG	60
16AWG	95
14AWG	153
12AWG	244

MAX. WIRE DISTANCE (IN FEET) = $\frac{\text{PANEL VOLTAGE} - \text{DEVICE MINIMUM VOLTAGE}}{\text{TOTAL CURRENT DRAW}} \times \text{WIRE CONDUCTIVITY (STROBE ONLY)}$

* INCLUDES WIRE TO AND FROM APPLIANCE.
ASSUMES ALL APPLIANCES ARE AT THE END OF WIRE RUN (WORST CASE).
CAUTION: APPLIES ONLY TO REGULATED SUPPLIES.

V. CHECKOUT AND TROUBLESHOOTING

- Supply power to the system control panel. The auxiliary signaling device should not be activated.
- If the signal is activated:
 - Check all smoke and fire detectors in the system to make sure they have not been activated.
 - Check all wiring connections to make sure the signal detection circuits are not reversed or shorted together. Check wire color codes and traces.
- To test the "SPKE" series and other signaling appliances, trip the auxiliary panel or activate alarm circuit at the main control panel or activate one of the fire detection units in the system. All auxiliary signals should be activated.
- An operational test on this product should be conducted in accordance with National Standards or at a minimum annually and more often if dictated by local and state codes or authorities having jurisdiction.

SIGNALING APPLIANCE LIMITATIONS:

Your speaker meets or exceeds current audibility requirements of Underwriters Laboratories. However, if the appliance is located outside a bedroom it may not wake up a sound sleeper, especially if the room door is closed or only partially open.

WARNING
THIS APPLIANCE WILL NOT OPERATE WITHOUT ELECTRICAL POWER. AS FIRES FREQUENTLY CAUSE POWER INTERRUPTIONS, GENTEX SUGGESTS YOU DISCUSS FURTHER SAFEGUARDS WITH YOUR LOCAL FIRE PROTECTION SPECIALIST.

VI. TO RETURN A UNIT

Should you experience problems with your "SPKE" unit, proceed as follows:

- Turn off electrical power to the auxiliary alarm circuit.
- Unscrew the unit from the mounting box.
- Disconnect the unit from the field wiring. Reconnect the two positive supply voltage circuits (red wires) and the two negative supply voltage circuits (black wires) of the auxiliary alarm circuit to maintain power to the other auxiliary alarm appliances in the system.
- Carefully pack the defective unit (the manufacturer cannot be responsible for consequential damage due to shipping or mishandling). Include your return address and complete details as to the nature of the difficulties being experienced and date of installation.
- Return to: Gentex Corporation, 10985 Chicago Drive, Zeeland, MI 49464. Prior to returning, call Gentex @ 1-800-436-8391 to obtain an RMA number from our return department.